

Progress Report on University of North Carolina Data Modernization and Integration Program

April 29, 2019

Executive Summary

The UNC System is on track to meet the deliverables for Data Modernization and Integration (DMI) outlined in Section 10.6.(b) of the Appropriations Act of 2017. The DMI program is on target to add finance data to the existing UNC data infrastructure within the projected four-year timeframe and with targeted additional investment requested by the University of North Carolina Board of Governors. This is a progress report on the program timeline and an update to the initial report submitted April 2018.

Introduction

This progress report is offered in response to Section 10.6.(b) of the Appropriations Act of 2017 and as an update to the initial report submitted to the Joint Legislative Education Oversight Committee (JLEOC) in April 2018.¹ This report details the progress to date on the UNC Data Modernization and Integration (DMI) Program.

Summary Status

The UNC System is on track to meet the deliverables for DMI program outlined in Section 10.6.(b) of the Appropriations Act of 2017 within the projected four-year timeframe and with targeted additional investment requested by the University of North Carolina Board of Governors. Figure 1 below shows the end of First Quarter 2019 and our associated program timeline as outlined in the initial report.

Figure 1. Finance Data Modernization Project Schedule

WORKSTREAMS	FY 18/19				FY 19/20				FY 20/21				FY 21/22			
	Q318	Q418	Q119	Q219	Q319	Q419	Q120	Q220	Q320	Q420	Q121	Q221	Q321	Q421	Q122	Q222
Establish DMI Foundation																
P1: Launch Program and Governance	✓	✓	✓													
P2: Establish Information Request Process and Data Stewardship	✓	✓	✓	✓												
P3: System Office Support Organization and Software Tool Acquisition (as required)	✓	✓	✓													
Finance Analytics (Including finance-related data)																
P4: Financial Data Warehouse Architecture, Common Coding and Allocation Design				✓												
P5: Financial Information Portal*					✓											
P6: Financial Core Analytics Workbench*																
Extended Analytics																
P7: Integration of Portal and Workbench for Finance, HR and Student Data Marts*																
P8: Exploratory Analytics and additional Data Marts*																

*Workstreams that result in the development and implementation of Analytics Products include the work required to access, extract and integrate the required data from Institution systems and other sources and the full cycle of development, testing, infrastructure provisioning, implementation, training and change management required for successful implementation.

Key	
Initial Planning, Requirements and Sourcing Activities	
Design, Procurement and Development	
Roll out	
Post Roll Out Support	

Material Updates to Initial Report

The initial report, prepared by Gartner, submitted by UNC in April 2018 details the Data Modernization and Integration goals, objectives, and timeline across four years. The scope of the report focuses primarily on financial data and the governance structure around UNC System data. The UNC System is on track to meet the technical outcomes in that initial report. There are three material updates with regard to technical approach, budget, and governance structure.

¹ Data Modernization and Integration – Strategy and Implementation Plan

<https://www.ncleg.gov/documentsites/committees/JLEOC/Reports%20Received/2018%20Reports%20Received/Data%20Modernization%20and%20Integration%20Initiative/Enhance%20UNC%20Data%20Systems%20to%20Improve%20Institutional%20Performance%20and%20Student%20Success.pdf>

Technical Approach

The DMI Program will pursue the Consolidation Model as outlined and recommended in Section 4 of the initial report. The Consolidation Model enables UNC institutions to maintain existing Enterprise Resource Program (ERP) systems and follows the successful models of the Student and Human Resources data infrastructure. Institutional values are maintained and mapped to “UNC universal” values for the purpose of System reporting and analysis.

The initial report assumes the selection of the Consolidation Model for purposes of outlining projects within the DMI program so there are no material changes to the approach. This progress report affirms that, of the options outlined in Section 4.0 of the initial report, only the Consolidation Model is considered. The alternative option, the Shared Systems of Record, is ruled out for the reasons outlined in the initial report.

Budget

Section 6.2 of the initial report includes a total cost estimate between \$21M and \$30M over four years. This is a high-level estimate calculated based on Gartner’s “case based” approach from prior similar experience. The estimate includes anticipated labor and other expenses to support financial data deliverables and the requisite governance structure. The estimate does not include costs associated with enhancements to Human Resources (HR) data, Student data, or ERP systems.

The UNC DMI Program was allocated \$9M in FY2019, inclusive of \$1.5M recurring. The DMI allocation and our progress on refining tasks and estimates informs the current DMI budget as follows in Table 1. Additional funds are requested for FY20-21. This table reflects the current allocation to DMI.

Table 1. Estimated Costs (millions)

	FY 18/19	FY 19/20	FY 20/21	FY 21/22	Total
Labor	\$ 0.5	\$ 1.6	\$ 1.4	\$ 1.3	\$ 4.8
Other	\$ 2.2	\$ 3.1	\$ 2.9	\$ 1.4	\$ 9.6
Total	\$ 2.7	\$ 4.7	\$ 4.3	\$ 2.7	\$ 14.4

Labor includes existing (pro rata), incremental permanent and temporary staff for the UNC System Office project teams. Other includes software license fees, hardware/network/storage allocated to DMI, and contracted services. These are slightly modified definitions from the initial report where labor associated with contracted services is included in the labor estimates.

Key notes about the budget:

- Costs peak during the implementation timeframe. This is consistent with most IT projects and with the initial report.
- Both personnel and software license fees are recurring expenses included in the above table. Recurring license fees were not known at the time of the initial report and are not enumerated in the estimate.
- IT infrastructure – hardware, network, data storage – incurs periodic upgrade expenses that are shared across the enterprise. Only initial, incremental DMI allocations are included in the table above.

- The cost estimate in the initial report focused on finance data and omitted HR data enhancements. Technical staff allocated to finance data can shift a percentage of time and effort from finance to HR work after finance implementation. Teams supporting the UNC data infrastructure are multifunctional and team members are cross-trained across institutions and/or subject areas. This enables a consistent approach to projects and to data. This expectation assumes minimally (1) that HR data remains a top priority and (2) that recurring allocations support the staff necessary to maintain the UNC Data infrastructure.
- In addition to developing a financial data mart and enhancing HR data, a catalog of projects has been evaluated against DMI criteria. Additional projects and enabling governance support the DMI goals of integrated finance, HR, student information; expanded student reporting; increased standardization; and modernizing business processes. Additional funds are requested for FY2020-FY2021 to support these projects.

Governance Structure

Sections 5.2 through 5.4 of the initial report detail governance structure, roles, and responsibilities recommended to sustain data systems and to meet demands for consistent information. Filling these roles requires creating and filling new positions. The budget allocated to DMI covers software license fees, hardware, and technical implementation staff, but not sufficient recurring funds for new positions focused on governance.

In order to meet basic governance requirements without new positions, UNC will pursue these strategies:

- Data and Analytics will assume some of the responsibilities defined in the initial report as belonging to Data Management and Data Stewardship.
- Information Technology will form a Program Management Office (PMO) to integrate the DMI program with existing and planned IT projects, including UNC Data Mart development.

Summary

The UNC System is on track to meet the technical deliverables outlined in Data Modernization and Integration. UNC has evaluated a queue of projects that support DMI objectives and will focus on developing a financial data mart and on enhancing the HR data mart. Budget is allocated across four years for IT infrastructure, license fees, and implementation and support staff. Most of the governance roles described in the initial report as dedicated roles will be absorbed by the two teams who have been filling these roles for student data; those are, Data and Analytics and Information Technology.